REMARKS

History of Prosecution

The above captioned application was filed with of total of 24 claims including independent claims 1 and 13. In the outstanding first Office Action, Claims 1-5 and 13-17 are rejected on the prior art; the remaining claims are rejected under 35 USC 112. It is specifically noted that Claims 6, 9-11, and 18-24 are indicated allowable if rewritten to overcome the rejections under 35 USC 112 and to include all of the limitations of the base claims and any intervening claims.

In accordance with this amendment, Claims 1 and 13 have been cancelled. The remaining claims have been amended to make them more definite and certain and otherwise to distinguish the cited art. In particular, it will be noted that Claim 2 has been made dependent on Claim 3, and Claim 14 has been made dependent on Claim 15. As presently submitted, the application includes Claims 2-12 and 14-24.

Rejections under 35 USC 112

Applicant wishes to thank the Examiner for his thorough review of the claims and his many suggestions for overcoming inconsistencies. In all cases, Applicant has incorporated the suggested changes except where changes in dependence made the issue

moot. In particular, Applicant has made a concerted effort to overcome any issues having to do with the lack of antecedent basis.

Rejections under 35 USC 112 (Second Paragraph)

Claims 6, 9-11, and 13-24 are included in this rejection. As being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In Claims 6 and 18, symbols have been defined to provide them with a descriptive statement. Accordingly, brief descriptions of the meanings of these symbols have been provided within the claims. These amendments should overcome the rejections of Claims 6 and 18.

In Claim 9, lines 8 and 18, respectively, the limitation "the mid range" has been provided with antecedent basis by changing the reference to "the mid value" as recited in Claim 9. This amendment should overcome the rejection of Claim 9.

In Claim 10, line 6, the limitation "*M*" has been defined with a descriptive statement indicating that "*M* is a mid pixel value." This should provided clarification as to what this symbol represents. This amendment should overcome the rejection to Claim 10 and Claim 11, which is dependent thereon.

The objections to Claim 13 are moot since this claim has been canceled. However, the language of Claim 13 has been added to new independent Claim 15 and the

claims dependent thereon. In Claim 15, reference to "a filter" has been changed to "the local filter" in order to clarify that this is not a new filter but the local filter previously referred to. Accordingly, this amendment should overcome any rejection of Claim 15 and Claims 14, 16-17, 19, 20, and 24, which are dependent thereon.

In Claim 21, line 17, "the mid range" has been changed to –the mid value– in order to provide the phrase with antecedent basis as found in line 3. This amendment should overcome the rejection of Claim 21 and Claims 22-23, which are dependent thereon.

Pursuant to the helpful suggestions of the Examiner, Applicant has made many amendments to the claims to make them more definite and certain. Considerably emphasis has been placed on proper antecedent basis for all recitations in the claims. As presently submitted, it is believed that each of the claims meets the requirements of 35 USC 112.

Claim Rejections under 35 USC 102 citing May et al.

Claims 1-2 and 13-14 are included in this rejection. It is suggested that these claims are anticipated by May et al (5,844,627). In accordance with the present amendment, Claims 1 and 13 have been cancelled. Claims 3 and 15 have been placed in independent form, and Claims 2 and 14 have been made dependent on these independent

claims, respectively. Since the broadest claims remaining in the application are Claims 3 and 15, May et al will be discussed relative to these claims.

May et al disclose a system for reducing spatial noise in a video image. A digital filter is used to select between local variances obtained from adjacent pixels in the same frame and adjacent pixels in the same field. A frame-based mean and a frame-based variance are computed for the neighborhood of each pixel. Then a field-based mean and a field-based variance are computed for each pixel. Ultimately the smaller of the frame-based and field-based variances and its associate neighborhood mean are chosen to be the neighborhood mean and neighborhood variance for that pixel. Independently the frame-based and field-based variances are summed and accumulated for the entire image with the resulting value used to compute a noise variance for a global noise signal.

It is suggested that May et al disclose the step of computing a 2-D local variance. Column 2, lines 66-67 are cited for this proposition. But this passage merely refers to a frame-based mean and a frame-based variance. There is neither mention of a 2-D variance nor any indication that a 2-D variance is the same as a frame-based variance. This entire system of May et al fails to disclose, contemplate or even appreciate the value of computing a 2-D local variance as well as computing a plurality of 1-D local variances as claimed by Applicant.

Claim Rejections under 35 USC 103 citing May et al in view of Vanish

Claims 3-5 and 15-17 are included in this rejection. As stated in the Office Action, May et al fail to disclose or fairly suggest the step of computing 1-D local variances along multiple directions. For this disclosure the Office Action relies on Vanish. More specifically, it is suggested that Vanish discloses the step of "...computing the 2-D local variance...." Column 10, lines 63-67 is cited in support of this proposition. But this passage speaks of statistical variances for pixel kernels in four directions, the variances being computed with reference to the normalized intensity values of the surrounding pixels. There is no mention in this passage of a 2-D local variance.

It is further suggested that Vanish discloses the step of "...computing the 1-D local variances along multiple directions...." The same passage is cited for this proposition. But this passage merely refers to pixel kernels in four directions. It is with respect to these pixel kernels that statistical variances are computed by reference to the normalized intensity values of the surrounding pixels. There is no indication as to how a pixel kernel relates to a structural pixel or a given pixel as disclosed and claimed by Applicant.

It is also suggested that Vanish discloses the step of detecting the local edge direction by selecting the direction of the smallest 1-D local variance. Column 13, lines 55-58 are cited for this proposition. But this passage merely states that the direction of minimum variance is selected from the four computed values and a corresponding

directional index is assigned. There is no indication in this passage that this selection has anything to do with local edge direction as recited by Applicant.

It is further suggested that Vanish discloses the steps of computing the 2-D local variance σ^2 as well as the 1-D local variances σ^2, etc. Support for this proposition is to be found in Column 10, lines 63-67. But this passage fails to disclose any squared quantity let alone the quantity σ^2 as recited by Applicant. This passage also fails to disclose the direction L3, which is the diagonal from upper left to lower right, or L4, which is the diagonal from upper right to lower left.

Vanish is said to disclose selecting the detected local edge direction L as the direction of the local filter. Column 13, lines 61-66 are cited for this proposition. But this passage merely states that the mean value in the direction of minimum variance is saved and multiplied by a factor γ. There is no reference to a local edge direction L and no indication that this quantity L is used in a local filter.

It is suggested that Vanish discloses the step of configuring a local filter for the detected local edge direction L based on the 1-D and 2-D filter strengths. No passage is cited for this proposition, but it has already been noted that Vanish fails to disclose any computation of 1-D filter strength. May et al has been relied on for this disclosure of 2-D filter strength.

This brings us full circle to the cited combination of May et al in view of Vanish. Even is the disclosure of May et al were to include reference to a 2-D local variance, it is clear that their entire disclosure teaches away from the consideration of inclusion of any data relating to 1-D local variances. Similarly, Vanish teaches away from any consideration or inclusion of 2-D data in his computations. Clearly the cited patents lack any motivation for making the combination. Since this motivation must be found in the prior art, this combination must fail. It is Applicant who has discovered the advantages of such a system; it is he who should be rewarded for his disclosure.

Allowable Subject Matter

Claims 6, 9-11, and 18-24 have been indicated allowable. Nevertheless, these claims have been left in their dependent form. With the foregoing amendments to independent Claims 3 and 15, it is felt that all of the claims remaining in the application are now allowable. The Examiner's reconsideration and allowance of the application is respectfully requested.

CONCLUSION

In view of the foregoing remarks, Applicant respectfully requests that the rejections of the claims be withdrawn, and that the case be passed to issue. If the Examiner feels that a telephone interview would be helpful to the further prosecution of this case, Applicant respectfully requests that the undersigned attorney be contacted at the listed telephone number.

Please direct all correspondence to **Myers, Dawes Andras & Sherman, LLP**, 19900 MacArthur Blvd., 11th Floor, Irvine, California 92612.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on February 14, 2007

By: Sarah A. Nielsen

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Respectfully submitted,

2/14/7

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